

Amendments to the Claims

The following Listing of Claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (original): A method of fabricating an image sensor, comprising:
forming a bottom antireflection coating over an exposed surface of an active image sensing device structure;
forming a color filter array on the bottom antireflection coating; and
substantially removing exposed portions of the bottom antireflection coating.

Claim 2 (original): The method of claim 1, wherein the bottom antireflection coating comprises a dyed organic film-forming material.

Claim 3 (original): The method of claim 1, wherein the bottom antireflection coating comprises a light-absorbing polymeric film-forming material.

Claim 4 (original): The method of claim 1, wherein the bottom antireflection coating has a thickness selected to improve an optical transmission characteristic of one or more colors of the color filter array.

Claim 5 (original): The method of claim 1, wherein the bottom antireflection coating is substantially transmissive to radiation in a wavelength range of about 400 nm to about 700 nm.

Claim 6 (original): The method of claim 1, wherein the color filter array comprises a plurality of colored photoresist structures.

Claim 7 (original): The method of claim 1, wherein exposed portions of the bottom antireflection coating are removed substantially by a plasma etch process.

Claim 8 (original): The method of claim 7, wherein the plasma etch process is a low-power buffered oxygen ash process.

Claim 9 (original): The method of claim 7, wherein the plasma etch process removes the bottom antireflection coating at a substantially higher etch rate than the color filter array.

Claim 10 (original): The method of claim 1, wherein the bottom antireflection coating forms a substantially continuous layer over the exposed surface of the active image sensing device structure before exposed portions of the bottom antireflection coating are substantially removed.

Claim 11 (original): The method of claim 1, wherein the bottom antireflection coating forms a protective barrier over metal structures at the exposed surface of the active image sensing device structure during formation of the color filter array.

Claim 12 (original): The method of claim 1, wherein the active image sensor device structure comprises a complementary metal-oxide-semiconductor (CMOS) image sensor.

Claims 13-20 (canceled)

Claim 21 (new): The method of claim 1, wherein:
the active image sensing device structure comprises an array of light sensing elements;

forming the color filter array comprises forming an array of color filters each disposed over a respective light sensing element such that light travels from each color filter to a respective light sensing element through a respective light transmission path substantially transmissive to radiation in a visible wavelength range;

forming the bottom antireflection coating comprises forming the bottom antireflection coating with a thickness less than approximately 200 nm; and

after the removing, remaining portions of the antireflection coating are disposed in each light transmission path between the color filter array and the active image sensing device structure.

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Page : 4 of 8

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Claim 22 (new): The method of claim 1, wherein, after the removing, the bottom antireflection coating is present only in regions directly under color filter array material.

Claim 23 (new): The method of claim 1, wherein the bottom antireflection coating has a thickness of about 60 nm.